NEW ENGLAND FARMER.

PUBLISHED BY J. B. RUSSELL, AT NO. 52 NORTH MARKET STREET, (AT THE AGRICULTURAL WAREHOUSE.)—T. G. FESSENDEN, EDITOR.

VOL. X. BOSTON, WEDNESDAY EVENING, DECEMBER 7, 1831. NO. 21.

COMMUNICATIONS.

HEATING HOT HOUSES BY HOT WATER.

Boston, Nov. 25, 1831.

THOS. G. FESSENDEN, ESQ.

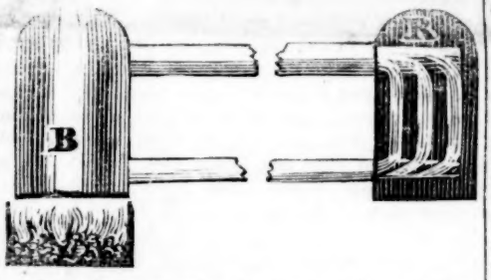
DEAR SIR—Permit me to ask your opinion on the following points in relation to heating hot houses with hot water, as you are better informed perhaps, than any other person in this country upon the principles of the method generally; and being as I understand much interested in the subject may think it of importance enough to investigate such facts as are not already familiar to you.

Having as you know erected an apparatus for heating a house eighty feet long with hot water upon principles which I supposed to be correct in relation to the object I had in view; that is, to keep up a regular and safe heat, during our long winter nights, without the necessity of an attendant after the usual time of retirement to rest, and with a view to the economy of fuel by this method over that of heating by smoke flues, I have been somewhat surprised by opinions that I understand have been given by highly respectable gentlemen in this neighborhood, which if correct, render my labors useless and the expense I have been at a total loss; and for this error I am indebted to Mr Atkinson the inventor.

As some gentlemen have taken directions from me with a view to establish a similar apparatus, I think it my duty to make public my error, if I have committed one, that they may be prevented from falling into a like mistake; under these circumstances you will oblige me by showing the defects of my apparatus, that others may profit by your experience and knowledge on this subject, if it be no longer in my own power to do so. The first objection, I understand, which is made is to *large* boilers and *large* reservoirs; and as mine are of this description it is an important one to me. The second is to placing the upper pipe three inches below the rim of the kettles, it being contended that it ought to be placed at the highest point in them; and as my pipe is according to the first plan it must be useless. The third is depending on hot water alone; it being urged that there ought to be a brick or smoke flue also in the house. The fourth is the enormous quantity of coal or fuel that this mode of heating requires where the apparatus is large. And the fifth is one that does not immediately affect me, but does others who have two pipes running from the upper part of their kettles while they have but one lower pipe of equal size to return the water from the reservoir to the boiler. It is said that if there be not two lower pipes where there are two upper ones the one that returns the water to the boiler ought to be equal in size to both the upper ones.

In answer to the first objection, I must observe that the terms *large* and *small* in this case are relative, and cannot be defined except in connexion with the size of the house to be heated, that is, the number of cubic feet of air which the house contains, and the time that it is desirable to keep up the heat after the fire is extinguished.

There is no doubt that a house may be heated much sooner with a shallow broad bottomed boiler without any reservoir at all, or with a very small one, than it can be with a large boiler and large reservoir; but the heating of the house quickly is not the only object to be obtained; you want not only to heat your house but to keep up a sufficient degree of heat many hours after the fire has gone out: to accomplish this there must be a quantity of water heated sufficient to produce this effect. Mr Tredgold says in his letter to the secretary of the London Horticultural Society in reviewing a communication from Mr Atkinson to that society on this subject, 'But the most important of the properties of the hot water method, as first tried, consists in the power it has of keeping up the temperature of the house for a long period without attention from the attendant; and it is entirely owing to the excess of fluid that it has this advantage over steam heat; and the exact knowledge we now have of the heat which water contains, in proportion to its temperature, enables us to calculate the time the cooling of the fluid will maintain the heat of the house.' That gentleman further says that gardeners object to large boilers, and large reservoirs, on account of the time it takes to heat them; but the excess of water over and above what is necessary to heat your house while the fire is kept up, is *a reserve* of heat to be given out after your fire is extinguished and he recommends as an improvement of Mr Atkinson's apparatus with a large boiler and large reservoir to pass the pipes through the water of the reservoir as thus—



That Mr Tredgold is in favor of large boilers and large reservoirs where a reserved heat is required to keep up the temperature of the house after the fire is out, and that he thinks them absolutely necessary, appears in many instances in his letter to the secretary. Referring to one of his shallow boilers he says; 'if a boiler have sufficient surface to receive the effect of the fire, and the whole apparatus contains as much water as will convey the heat from the fire to the heating surface in the time corresponding to its velocity, its capacity need not be further increased, *except as a reservoir of heat to act when the fire ceases to burn.*'

What does this mean? Why if you want a temporary heat, or one that can be kept up while your fire is burning under the eye of an attendant, a shallow or small boiler will answer your purpose; but not so if you want to keep up the heat any time after your fire has gone down. So he says again. 'Where heat is required *only during the action of the fire*, a large surface in proportion to its capacity may be used with advantage to give off heat over the descending pipe.' Mr Tredgold seems to think that where a reserved heat is required to keep up the temperature of the house after the fire has gone out, large boilers cannot be dispensed with.

There is another theory maintained here by one of the gentlemen referred to, which is, that you should have a small boiler and a large reservoir, in place of two kettles of equal size; by which means, it is contended, you can heat any given quantity of water with less fuel, if not in less time than you can if the water is equally divided in the two vessels. I confess I cannot understand how this can be done.

Suppose for instance the size of your house should require 280 gallons of water heated, to keep up the temperature of the house eight hours after the fire has gone out; in one instance the water is equally divided into two kettles, 70 feet from each other, each containing seventy gallons of water, making 140 gallons; the rest of the water is contained in two pipes each 70 feet long with a bore large enough to contain the residue of the water, or 140 gallons more, making in all the 280 gallons to be heated; this is the case in my house.

In the other case the water is distributed into two kettles, the boiler containing only twenty gallons and the reservoir 120 gallons and the pipes, as before, 140 gallons; making, as in the preceding case, 280 gallons in all; can the 280 gallons of water in the last distribution be heated sooner, or with less fuel, to the temperature of 185 deg. than it can in the former one? This is a question of importance and if it can be truly answered in the affirmative, then I cannot account for the oversight of Mr Tredgold in not mentioning it as an improvement on Atkinson's plan, if it be one in fact.

But suppose that it could be heated with less fuel and quicker too; the question then arises, would it answer as well to keep the house at a proper temperature during the night at both its ends? The fire being extinguished the whole mass of water soon becomes of the same temperature; in the reservoir however you have six times as much water giving out heat as you have in the boiler; will not the end where the reservoir stands be kept warmer and warm enough, when the other end of the house will be cold?—But Mr Tredgold has given plates of seven different modes of heating hot-houses by hot water, six of which differ from Mr Atkinson's, four of the six are with shallow boilers and no reservoirs;—one with a large deep boiler and no reservoir; and one with deep boiler and deep reservoir covered at the top with high upright pipes, both in the boiler and reservoir for the purpose of carrying the water over a door in the house; but the apparatus with a *small boiler* and *large reservoir*, he seems to have forgotten.—This may be seen in his letter to the Secretary of the Horticultural Society, No. vii., part iv. of the Transactions.—It does appear to me that if this mode of heating with a small boiler and large reservoir had possessed any advantages over two large kettles of equal size, Mr Tredgold must have seen it. I am more particular on this point, because several gentlemen have mentioned it to me as an improvement on my apparatus—not that I ever for a moment could understand, or believe in its efficacy.

The next objection made to Atkinson's apparatus is the placing the upper pipe three inches

below the brim of the kettle.—It is urged that it ought to be placed at the highest point in the boiler and reservoir.

Any one who looks at Mr Tredgold's plates will see that this is not the fact; and the very means by which the circulation is produced through the apparatus shows that Mr Atkinson is right in directing the upper pipe to be placed three inches below the brim of the kettles; for if you were to place your upper pipe near the rim of the boiler, the moment the water was heated to a sufficient temperature to produce a circulation, your boiler would overflow and you would lose all the advantage which is derived from its expansion.

Mr Tredgold says—'the aperture of the upper pipe should not be more than about an inch below the surface of the water, or as much as prevents its drawing air in an open boiler.' Now here is an inch of water allowed by Tredgold above the upper part of the upper pipe in the outset, when the water is all cold.—'If heat be applied to the boiler,' continues Mr Tredgold 'the effect of the heat will expand the water in the boiler, and its surface will in consequence rise to a higher level.' This he marks in his plate about one and half inches above the level of the water when cold; of course the water in the boiler is raised two and a half inches above the upper part of the pipe, and if there had not been sufficient space left above the pipe, it would have run over: and as the circulation depends on this head of water, through its tendency to produce an equilibrium, it cannot be dispensed with in any case, or in any apparatus, whether open or closed, shallow or deep, great or small, that I can perceive.

The third objection mode to Atkinson is, that he depends altogether on his hot water without the auxiliary of smoke or brick flues, by the aid of which, it is said, the temperature for a long time may be raised many degrees above the heat from the hot water pipes, and that this heat ought not to be lost. I had conceived that one of the principal objects of heating with hot water, was to get rid of smoke flues; and Mr Tredgold seems to me to favor this opinion very strongly. He says in the letter to the secretary above referred to —'The obvious advantages of this method are

1st. The mild and equal temperature it produces, for the hot surface cannot be hotter than boiling water.

2d. The power of heating such a body of water as will preserve the temperature of the house many hours without attention.

3d. The freedom from smoke, and other effluvia of smoke flues.'

'In houses for plants,' says he, 'these advantages are most important.' Here then Mr Tredgold thinks one of the obvious advantages of hot water apparatus is to exclude smoke flues.

The fourth objection made to this mode of heating with large boilers and large reservoirs is on account of its great consumption of fuel; which, if well founded, is a very serious one, and indeed fatal to its usefulness where economy is an object. But I can see nothing in Mr Tredgold's communication which justifies this belief. From my own experience, which is to be sure but small, I should doubt the fact. On the contrary, I believe that a house eighty feet long may be kept at a proper degree of temperature during the twenty four hours, by this method, with one third the fuel, to speak within bounds, that a brick flue would consume in a building of the same dimensions. But I may be mistaken, and shall wait until I can test the fact, as I hope to be able to do the coming winter.

The fifth objection to Mr Atkinson is the introduction of two pipes at the upper part of the kettles to convey the water from the boiler to the reservoir and one only at the bottom to return the water from the reservoir to the boiler.

It is said that that the pipe below must be as large as both those at the top or the circulation will be checked—Is this correct?

When the water in the boiler is heated to a proper temperature it will be raised by expansion, as in the case before stated:—'and although the density of the water in the boiler will decrease in consequence of its expansion yet as soon as the head or column of fluid in the boiler above the centre of the upper pipes is of a greater weight than the column or head in the reservoir taken from the same level, motion will commence along the upper pipes from the boiler to the reservoir; and the change this motion produces in the equilibrium of the fluid, will cause a corresponding motion in the lower pipe from the reservoir to the boiler,' so says Mr Tredgold.—Now when ten gallons of water are displaced from the boiler through the upper pipes, is there not a corresponding quantity let into the bottom of this vessel from the lower pipe immediately, to produce the effect above stated? What odds does it make whether the lower pipe be smaller or larger than the upper one? it can only discharge so much water in either case into the boiler as will produce the equilibrium above spoken of, and if the lower pipe be larger than the upper one the water from it will move more slowly; if it be smaller, it will move more rapidly. This at least is my view of the subject, and if I am wrong I should like to be corrected. If I am right, then it follows that if the two upper pipes, each 4 inches in diameter, take off ten gallons of water from the boiler in ten seconds, the same quantity will be replaced from the lower pipe (which is also a 4 inch bore) in the same period of time; but the motion of the water in the lower pipe will be twice as great as that in the upper pipes. The only reason why I should want my lower pipe as large as my upper one is, because the greater its caliber the more water there is to be heated to serve as a reserve heat; and the greater the surface over which this heat is given out after the fire is extinguished.

In an apparatus to be used only during the attendance of the gardener, if my upper pipe would give me heat enough to raise the house to a proper temperature, I believe a returning pipe of one third the size of the other would answer all the purpose required. The only question in my mind is, as the friction in small pipes is greater than in large ones, whether any obstruction arising from *this* cause would retard the motion?

There is one construction of apparatus by Mr Atkinson which has been erected here under his written directions, of which I confess I feel more doubt as to it operation; it is this—the boiler being in the shed behind the back wall of the house, has one upper pipe only leading from its top across the end of the house to a square iron box in the front of it.—From this iron box there are two upper pipes of the same size as the first named leading along the front of the house fifty feet into another square iron box; and from the side of this box there is one upper pipe only to convey the water to the reservoir across the house to the back wall, where it is placed. From the reservoir there is only one returning or lower pipe back to the box in front of it, and thence to the box in front of the boiler, and thence to the boiler itself.—It is said this plan is entirely defective. I own I should prefer to have the two upper pipes run directly from the boiler to the reservoir and to have the lower pipe return in the same manner. But if Mr Atkinson communicated this plan to the secretary of the horticultural society, I am surprised that Mr Tredgold did not, in his review of that article, point out its defects. I should think that the acute angles where the pipes join the boxes would retard the circulation of the water. I should also apprehend that the single upper pipe leading across the house from the boiler ought to be large enough to convey as much water to the box in front of it, as is taken off by the two upper pipes that run in front of the building; but experiment alone can show the fact.

I have written you so long a letter I am ashamed to send it to you—but as you are as interested in the subject as I am and know much more than I do of its principles I trust you will excuse the trouble I am giving you to peruse and answer it.

With much esteem and respect, I am, dear sir,
Your obedient servant,
SAMUEL G. PERKINS.

By the Editor.—Although my respected correspondent has given me credit for much more science on the subject he has discussed than I possess, I cheerfully contribute my mite to the treasury of useful information.

Heating rooms, &c, by steam, is a modern invention, and the use of hot water for warming hot houses is of still later origin. In the London Philosophical Transactions for the year 1745, it is stated that Col. W. Cook suggested the idea of employing steam as a means of distributing heat. Steam has since been applied for that purpose in Great Britain and in the United States in various ways, and a great many patents have been granted in both those countries for real or supposed improvements in that branch of economy. 'The first of these Patents,' says Mr Tredgold, *(Treatise on Warming and Ventilating Rooms, &c. p.* 11,) 'was granted to John Hoyle, of Halifax, in 1791, for a mode of communicating heat to green houses, churches, &c. His plan consisted in conveying steam in pipes or tubes into, round or through the place to be warmed; the pipes being first raised to their highest elevation, and then descending with a gentle declivity to a cistern for the condensed steam; the supply of water to the boiler to be regulated by a ball cock, *(Rep. of Arts, vol.* 1, *p.* 300—303 *old series.)* This scarcely differs in anything from Col. Cook's plan, which had been known forty years sooner. In 1793 a patent was granted to Joseph Green, whose mode of application was different, and has had the honor of being adopted, with slight variations of form, by a number of later projectors. His method consisted in passing fresh air through a worm or pipe, immersed in *hot water* or *steam*, by which means the purity of the air was to be preserved. When the heat was conveyed to a distance, he says, 'I inclose the pipes through which the warm air is conveyed in large pipes to which the steam rises from the boiler.—*(Rep. of Arts*, vol. 1, p. 21—24, old series.) Col. Cook's idea was neglected, no doubt because it promised too much. Whoever attempted to warm a large suite of apartments by the spare heat of a kitchen fire would fail, because so small a quantity of heat is

quite inadequate to produce such an effect. But, when revived with less pretension, steam was found to be a convenient and economical mode of distributing heat.'

Loudon says, 'Pipes of hot water have been proposed to be circulated through hot houses by Knight, (*Hort. Trans. vol.* iii); the plan was tried many years ago by the late Gould, gardener to Prince Potemkin, in the immense conservatory of the Tauridian palace at Petersburgh.'—*Enc. of Gard. p.* 328.

The advantage to be derived from heating hot houses by hot water is the consequence of the great *capacity* of water for heat. Suppose a gallon of water was heated to 212 degrees, the boiling point, and a gallon of air was also heated to the same temperature. The water would contain, according to the lowest estimate, (for philosophers are not perfectly agreed on this subject,) *five hundred times as much heat as the air.* If the water and the air, when so heated, were each of them confined in similar water tight and air tight vessels, in contact with as much ice as each could melt in cooling, the hot water would be found to have melted at least five hundred times as much ice as the hot air. Water too, when heated, will be at least as much longer in cooling than air, of the same temperature, as it contains more caloric.

'Water,' says an eminent philosopher, 'appears to possess the greatest capacity for heat of any pure liquid yet known, whether it be compared with equal bulks or weights; indeed it may be doubted whether any solid or liquid whatever contains more heat than an equal bulk of water of the same temperature. The great capacity of water arises from the strong affinity, which both its elements, hydrogen and oxygen, have for heat Hence it is that solutions of salts in water, contain generally less heat in a given volume than pure water; for salts increase the volume of water, as well as the density, and having mostly a smaller capacity for heat, they enlarge the volume of water more than proportional to the heat they contribute.'*

It is, however, remarked by Mr Tredgold, that the boiling points of solutions of salt and some other liquids are higher than the boiling point of water. Linseed oil, for instance, will not boil until it is heated 600 degrees, or made almost three times as hot as boiling water. Consequently we should need only one third as much surface of pipe, and one third the capacity of boiler and reservoir for heating a given space with boiling oil as with boiling water. But solutions of salts are corrosive, and oil very inflammable, as Mr Tredgold correctly observes. On the whole, we believe there is nothing like water to seize and retain the heat produced by combustion, and prevent its escape into the open air before it has been subservient to any purpose of economy.—Steam is an excellent agent to carry and distribute heat. With the help of a little skill in its management, it will go where you bid it, and leave its commodity of caloric where most needed. But it carries but little heat at a load, in proportion to its bulk and temperature. It requires large surfaces of pipes or other receivers, in proportion to the space it warms. And in a few minutes after the fire which creates it slackens or is extinguished, the vessels it filled become as cold as the air which surrounds them. Hot water carries and distributes much more heat than steam in proportion to its bulk and temperature, requires less apparatus, and heated surface for emanating a given quantity of heat, and will continue to give out warmth for hours after its supplies from the fire place are cut off. But it must be dealt with according to the laws of hydraulics and hydrostatics, and though more efficient when it begins to act, is not so readily brought into action as steam.

* Dalton's Chemical Philosophy.

With regard to large boilers, and large reservoirs, which Mr Perkins says are objected to, we can say nothing either from our own experiments, or from personal observation; and shall merely give the opinions of such writers as we have been able to consult; together with some remarks, founded on analogy, and the little experience we have derived from a portable apparatus, which we call a Steam and Hot Water Stove, (for which the writer has obtained letters patent.) for heating apartments, &c, by the agency of hot water and steam. In addition to what Mr Tredgold observed, (as quoted above by Mr Perkins,) in favor of a large boiler, 'as a reservoir of heat, to act when the fire ceases to burn,' it may be stated that the experiments of Count Rumford, (*Essay* vi. chap. v.) are in favor of large boilers. For, in order to keep 508 pounds of water boiling, the expenditure of fuel by the hour was something short of one eighteenth part of the weight of the water; whereas, in a smaller boiler, holding only 284 pounds of water, the expenditure of fuel was more than one twelfth part of the water.—Mr Tredgold judiciously observes that 'the bottom of the boiler should have sufficient extent of surface to receive all the force of the fire, as far as the heat of it is capable of being extended, so as not to be less than 212 degrees; a greater surface will not generate steam; a less will not produce the greatest effect. And it is clearly a disadvantage to suffer the smoke of the fire to come in contact with the boiler after its heat is less than that of boiling water; for if it be continued in contact with the boiler, it will rob it of heat instead of adding to the effect of the fire. *

If the boiler is less than the reservoir, its perpendicular height should be at least as great, in order to insure the quick circulation of the fluid.

Mr Tredgold says, 'all other things being the same the velocity will be increased in proportion to the square root of the depth of the boiler; therefore in a boiler four times as deep the velocity would be doubled.'†

Among the several plans, which Mr Tredgold has given as improvements on Mr Atkinson's, we should prefer the one sketched above by Mr Perkins, with this alteration, which might not however be an improvement.—The reservoir we would make much larger, in proportion to the boiler, than is there represented. We would do this because *all water, however low its temperature may be, contains a large portion of caloric.* A large quantity of water drawn from a well or taken from a spring in the winter time, and placed in open vessels in a cellar, not subject to frost, generally protects vegetables, &c, from being frozen. This is a fact known and practised upon by many a good housewife, whose philosophy never dreamt of the cause. This we will briefly explain. Water at the mean temperature of this climate contains more than 20 degrees of heat, which it must give out before it can freeze, and while freezing, it gives out 140 degrees, according to Dr Black. This heat is yielded to surrounding objects, including the vegetables, &c, in the cellar, which keeps the temperature above the freezing point of 32 degrees, till the water is frozen and can give no more heat. The vegetables, &c, will then freeze if the weather continues sufficiently cold, and no other supply of caloric is provided. We see no reason to dissent from the other statements of Mr Perkins, whose remarks appear to us judicious and scientific.

We hope the importance of the subject will apologize for the length of this article; and intend to resume the discussion as soon as our avocations and pre-engagements will possibly permit.

* Tredgold on Warming and Ventilating Rooms, p. 163.
† Hor. Trans. vol. vii. p. 575.

VARIETIES OF OAKS.

Mr J. B. Russell—

Dear Sir—Observing in your paper that several persons have been forwarding *Acorns*, for a collection to be sent to the Horticultural Society of London, I take the liberty of inclosing you, herewith, the list, or catalogue, of those which I have put up already this season, and forwarded to that Society, by the ship Fanny, from this port. They were all collected this fall, from this garden, and the immediate vicinity; and several other sorts, which failed to bear seeds, this year, will be sent to that society next fall. We always collect our *acorns*, and other seeds, from the purest standard plants, and do not collect them in the woods, nor purchase them from others, unless they are gathered from trees which we point out. Of the Oaks, in our woods, the mixtures, or hybrids, are infinite; I can collect 11 or 12 different sorts of acorns of the *Quercus alba*, and quite as many of the *Q. tinctoria.* Of the former we have here one tree which produces *blue* acorns; but that is owing to a diseased state of the tree.—Many of the trees, in this old garden, are the identical trees figured and described by the Michauxs, (father and son,) and by F. Pursh, all of whom made this place their residence, while in this neighborhood.

Respectfully, yours,

Robert Carr.

Bartram Botanic Garden, Philadelphia, Dec. 2, 1831.

CATALOGUE OF THE ACORNS

Of North American Oaks, sent from the Bartram Botanic Garden, near Philadelphia, to the Horticultural Society of London, Nov. 1831.

[The names are according to 'Pursh's Flora of North America.']

1.	Quercus	alba	White Oak.
2.	"	phellos.	Willow Oak.
3.	"	heterophylla.	Bartram Oak, of Michaux.
4.	"	aquatica.	Water Oak.
5.	"	nigra.	Barren Oak, or Black Jack.
6.	"	"	A variety of do.
7.	"	tinctoria.	Black Oak, or Quercitron.
8.	"	"	A variety of do.
9.	"	discolor, or	*Q. tinctoria sinuosa*, of Michaux.
10.	"	"	A variety of do.
11.	"	coccinea.	Scarlet Oak.
12.	"	"	A variety of do.
13.	"	rubra.	Red Oak, or Champaign Oak.
14.	"	"	A variety of do.
15.	"	falcata.	Spanish Oak; also called Red Oak in some of the Southern States.
16.	"	"	A variety of do.
17.	"	palustris.	Swamp Spanish, or Pin Oak.
18.	"	"	A variety of do.
19.	"	banisteri.	Bear Oak, Black Scrub Oak, or Dwarf Red Oak.
20.	"	obtusiloba.	Upland White Oak, Post Oak, or Iron Oak.
21.	"	macrocarpa.	Over-cup White Oak.
22.	"	lyrata.	Over-cup Oak, Swamp Post Oak, or Water White Oak.
23.	"	montana.	Rock Chesnut Oak.
24.	"	bicolor.	Swamp White Oak.
25.	"	sericea.	(*Q. pumila*, of Michaux,) Running Oak.
26.	"	chinquapin.	Dwarf Chesnut Oak.

Naturalisation.—Since the discovery of the New World, our English gardens have received 2,345 varieties of trees and plants from America, and upwards of 1,700 from the Cape of Good Hope, in addition to many thousand which have been brought from China, the East Indies, New Holland, various parts of Africa, Asia, and Europe, until the list of plants now cultivated in this country exceeds 120,000 varieties.—*London Atlas.*

Sheep in Vermont.—It is estimated that there are 766,803 sheep in Vermont. The several counties contain as follows:—Bennington 52,416, Windham 55,542, Rutland 139,996, Windsor 109,787, Addison 112,787, Orange 73,155, Chittenden 55,449, Washington 40,856, Caledonia 43,748, Franklin 41,638, Orleans 23,797, Essex 6,976, Grand Isle 8,656.

Agricultural.

ADDRESS,

DELIVERED BEFORE THE JEFFERSON COUNTY AGRICULTURAL SOCIETY, AT THE ANNUAL CATTLE SHOW AND FAIR, AT WATERTOWN, SEPT. 27, 1831.

BY MAJOR EDMUND KIRBY.

GENLTEMEN—I congratulate you upon the auspicious return of our anniversary. Our meetings are always attended by agreeable associations. They bring in satisfactory review the past, and excite cheering anticipations of the future. But this perhaps, more than any former occasion, is calculated to inspire grateful emotions.

The labors of our society, through a succession of fourteen years, under the able guidance and mainly through the indefatigable efforts of our presiding officer, have been, in an eminent degree, crowned with success. A better system of agriculture; the introduction of improved breeds of cattle, and the cultivation of more intimate social relations among ourselves, are some of the fruits of these labors. And at no former period, since our organization, have the prospects of the farmer been so decidedly encouraging as at present. This favorable state of things must be ascribed to a combination of other causes with that just noticed.

We are blessed with a country admirably adapted to the pursuits of agriculture. Our climate is salubrious; our soil possesses a high degree of fertility; its productions are abundant and varied; our position enables us to resort, with the facility of water transport, to the New York or the Montreal markets, as either shall offer the highest inducements; above all, our great artery, the Black River, flowing through the centre of the county, presents for thirty miles a constant succession of water power, already becoming the favorite seat of the mechanic arts, and diffusing activity and vigor through our whole population.

With these great natural advantages, we should be wanting to ourselves if we were not a prosperous and a happy people. That we have not been entirely regardless of them, is manifested by all the circumstances of our condition. It is but about thirty years since the first inroads of cultivation were made upon the solitudes of the forest and we have advanced to a population of fifty thousand souls. We already begin to enjoy the benefit of a home market from the various manufacturing establishments and flourishing villages, which are springing up in every part of the county. Many of our public edifices and private dwellings are constructed of the most durable materials, and in a style to do credit to a country older and more advanced in the arts and in wealth. The neat stone farm houses with which the county is studded at every point, impart an air of solid comfort, not surpassed in what have been regarded, as the more favored regions of our land.—Especially, it is believed, that the exports from the county of Jefferson, of the products of her own soil, are greater than those from any other county in the state. Other districts are distinguished for some leading staple, to the production of which, the farmer bends every effort. We happily combine, in a remarkable manner, the products of tillage with those of grazing, and send to market a large surplus of live stock as well as of grain.

A liberal support of public institutions, is the characteristic of a high-minded generous people: and to deserve such a character, is a fair object of honorable ambition. It is a gratifying reflection, that the labors of this society have contributed in some degree, to acquire for Jefferson county a good name abroad. And could our farmers be made sensible of the respect which attaches to the county, from the circumstance of our association being so well sustained, I am confident, that they would to a man, contribute to our funds, and enable us by a more extended list of premiums, to reach all the objects of production.

But however well others may think of us, we must not conceal from ourselves, that we are yet but upon the threshold of improvement, and that the whole field lies expanded before us. Though much has been accomplished, still more remains to be done, demanding united efforts and the most persevering zeal.

While I offer a few suggestions upon some of the defects in our system, I am conscious that the contribution I shall be able to bring to the common stock, will be humble indeed; for, my life having been devoted to other pursuits, I have but a very limited experience to draw upon, and must make amends for my lack of knowledge, by the abundance of my zeal for the cause in which we are engaged.

A leading defect in our system is the occupation of farms too large for our means of cultivation. This arises from the cheapness of land and dearness of labor. How many of us grasp more land than we can manage to advantage, and how frequently are we seen toiling behind the proper season of our work, with every operation hurried, and not done properly, nor in its appropriate time. Seed is sown too late, upon ground imperfectly prepared; a feeble growth ensues, which comes forward struggling for the ascendency with noxious weeds. In laying down to grass, we often practise the miserable economy of saving seed by not using one half enough; and to supply the consequent deficiency of fodder, resort is had to pasturing our meadows fall and spring. In a few years June grass and Blue grass predominate, and the crop becomes not worth the expense of harvesting; when we break up, to go through the same unproductive process. What farmer can thrive under such management? Most of you will say that this picture applies to my neighbor's farm, not mine. The exceptions are numerous and honorable; but is it not true, in some of its parts, of too many of us?

The remedy is simple and obvious. Let us limit our efforts to such a compass that we can till thoroughly all that we attempt to cultivate. Our toil will then become a pleasure; everything will be done appropriately, and an abundant harvest will crown the year with gladness.

To keep land dry, clean and rich, are fundamental principles, which if carried out fully into practice, will not fail to insure a constant succession of good crops. With slight exceptions, nature has provided us with the first of these requisites by the undulating surface of our soil. The second is to be attained by a diligent use of the plough and the hoe. As to the last, we have much to learn. The preparation and application of manure has occupied much of the attention of scientific cultivators in all ages and countries; and volumes are filled with details of experiments, upon the various methods of restoring to the soil the properties which we are constantly abstracting from it.

Our soil, originally covered by a rich vegetable mould, the accumulation of centuries and for a while yielding abundantly, even under the most imperfect cultivation, becomes, in process of time, partially exhausted by the severe and injudicious course to which it is frequently subjected. Relying upon its natural fertility, we have too much neglected the means, amply within our reach, of preserving its productive powers at their highest pitch. There are various modes of applying manure by which it may be made to contribute to the fertility of the soil; but it is of importance to know in what way the greatest good is to be derived. In regard to barn yard manure, almost the only kind in use among us, when applied as a top dressing to grass land, though the succeeding crop will be essentially benefited, yet much of its virtue is wasted by evaporation. It is unquestionably better to apply it on land under tillage. Until of late years it was not common to use it till thoroughly rotted; but numerous and critical experiments have established the fact, that more than half its fertilizing properties are thus lost; and it is agreed by the best modern authorities, that it should be hauled out and ploughed in before fermentation takes place, in order that the gases evolved by that process, may pervade the soil and impart to it their stimulating properties.

Wheat constitutes one of our most valuable products, affording under proper treatment, a sure and rich return for the labor of the husbandman. It forms a prominent object of cultivation upon almost every farm, and yet there is no crop in the management of which more ignorance, or negligence prevails. Our wheat ranks with the best in market; and it is an object of importance to preserve this character, for the difference of price between grain of first and that of inferior quality, is a handsome profit upon the whole operation of raising it.—But it must be confessed that the reputation of our county for wheat, suffers from the gross negligence of some, who sow foul seed in October and harvest weeds, chess and smut in August.

In raising wheat, three things demand attention. The proper preparation of the ground; the selection of clean seed, and the sowing of it in good season.

Newly cleared land will yield good crops of wheat under almost any treatment; and with such the practice of letting it follow oats, peas, or corn will continue. But upon our older farms it will be found more profitable to discard fallow crops, and to prepare for wheat by a naked summer fallow, taking care to turn up the soil to the full depth of the plough, and to reduce it to a fine tilth.

In regard to seed, it is a law of nature that like begets like; and if you wish to harvest a crop of chess, you cannot better insure one than by sowing it. I know it to be the settled opinion of many of you, that wheat, affected by the frosts of winter, or rains of spring, degenerates, and by some strange process of nature becomes chess. Numerous facts have helped to give currency to this opinion. But men of science tell us that this is impossible, because chess belongs to a different order of plants, and can no more grow from a grain of wheat than a pine tree can grow from an acorn. But whether this be true or not, it more nearly concerns us to know that chess will vegetate and produce its kind. If we sow it therefore, we shall assuredly reap it. I have seen this pest come in where I know the seed wheat was

clean; but I ascribe it to chess having been brought on with the manure; or to its lying dormant in the ground; for it is ascertained that some seeds will lie in the ground for ages, and then vegetate when brought within the influence of the atmosphere.

We are not much troubled with smut, and with a little more attention to our seed should be still less so. The same law prevails in regard to it as with chess, it uniformly reproducing itself; and if seed entirely free from it cannot be procured, it should be steeped twentyfour hours in lime water, which will correct the evil.

In this climate, late sown wheat is peculiarly liable to be thrown out by the frost and winter killed, however well the ground may have been prepared for its reception. According to my limited experience, the proper time for sowing, is from the middle to the last of August.—The operation should be closed with the Roller, an implement which is fast coming into general use and furnishes its own recommendation. It is especially useful where seeding down to grass, for it leaves the surface smooth for the scythe: but it is of great service in sowing all small grain, by breaking the lumps to pieces, and pressing the earth around the seed, causing it to vegetate more certainly and more evenly.

The advantages of early sowing are these. The plant becomes well rooted, and acquires sufficient strength to resist the frosts of fall and spring; which are so apt to heave out and destroy the feeble plants of late sowings. In the spring, it is prepared to make vigorous offsets and comes forward rapidly, unaffected by the droughts, which sometimes prevail at that season, and occupies the ground to the exclusion of weeds and noxious plants.

A rotation of crops, resting upon a basis of wheat and grass, filling up one or two intermediate years with spring grain, such as corn, oats, barley or peas, will keep our old farms in good condition; and combined with a well selected stock of sheep, and neat cattle, will bring them to high point of productiveness.

In farming, whatever is worth doing at all is worth doing well.—This maxim applies especially, to the selection of stock. It is as easy to raise a colt of high blood, as it is an inferior one, and at four years old, the former will be worth twice as much as the latter.

Efforts are making by several members of the society, to introduce the improved breeds of neat cattle. Our pens today, exhibit specimens of both the Devonshire and short horn Durham breeds, crossed upon our common stock, from various parts of the country. We have also the gratification, through the liberality and enterprise of Messrs Bostwick and Buck, and several other gentlemen of Lowville, of a fine display of the full blood Durham cattle, which have been introduced by the former gentleman into Lewis county, from the celebrated collection of Colonel Powel at Philadelphia, and an opportunity is afforded us of thus realizing one of the important benefits of our society, of comparing these two breeds of cattle with each other, and both with our common stock. No man, I think, can be at a loss which to prefer. So far as I am informed, wherever the short horn Durhams have been introduced, they have challenged competition, and been pronounced superior for draft, for the dairy, and for the butcher. Our long nourished prejudice is in favor of red cattle; but it will yield, when the superior excellence of the Durham breed becomes more generally known; and we shall no longer consider white marks as a blemish.

Some are so blinded by prejudice, that they ascribe the acknowledged superiority of the improved breeds of cattle, solely to the greater care and attention bestowed upon them. Admitting this to be the case, and that they are, intrinsically, no better than the common breed, yet if from fancying them so, we can be thus easily bribed to bestow such attention, in fitting them for market, as to make them at three years old, bring the price that our present stock does at four, which I believe will be the case, it is a sufficient reason for incurring the expense of their introduction. But in truth, there is as marked a difference between them and the original stock of the country, as there is between the ungainly prairie hog, and the compact grass breed, which is rapidly supplanting it in all parts of the county. It is asserted that the same difference exists in the expense of keeping them, as between these last animals; that the Durhams in particular, are comparatively small eaters, and take on fat more readily than any other cattle.

One of the most serious evils to which the farmer is exposed, is the fluctuation of the market for the products of his labor. This will ever be the case while we are dependent for the disposal of our surplus, upon the policy or the wants of foreign countries. A steady market, at remunerating prices, is all we ask, and this, in regard to one of our most valuable staples, we have now a right to count upon.

Protecting duties upon wool and its manufactures have stood the test of experience. Both the wool grower and the manufacturer, are prospering under them, while they operate injuriously upon no part of the country, nor upon any class of community, inasmuch as the fabrics of wool can be purchased at lower prices than they could before these duties were imposed.* Having been adopted deliberately, and operating beneficially, we may regard them as part of the settled policy of the country.

The domestic supply of wool is yet below the demand, and notwithstanding the high duties, large importations are constantly made. These will continue several years, insuring to the wool grower a liberal price. But when a full supply shall be produced in the country, and importations cease, competition will regulate production, and it will continue to bear a fair price.

There is no part of the country better adapted to the raising of sheep than this. From the best information, it appears that our sheep winter as well, or better than they do in any of the extensive wool growing countries. The destructive maladies, which sometimes sweep off whole flocks in Europe, are unknown among us. There is no stock that multiplies more rapidly than this, and none more readily reduced. We may bear in mind also, that no other stock is better calculated to promote the fertility of the soil. Everything then invites attention to this branch of husbandry, and no farm should be without a flock of fine woolled sheep.

Of the various breeds of sheep to be found in the county, the Saxon is in highest repute, and its wool brings the highest price in market. The extensive importations of Saxon sheep, during the last few years, place them within the reach of every farmer, and bucks of full blood, and of every grade of mixture, may be procured without going out of the county. These animals thrive in our climate without any extraordinary attention, and crossed with our common sheep, much of the fine fleece of the Saxony, is combined with the larger and more vigorous carcass of our native breed.

To be concluded next week.

*A bale of coarse woollen cloths was recently imported into Charleston, S. C. from England, and the payment of the duties refused, for the purpose of testing the constitutionality of a protecting tariff, before the legal tribunal. It is stated in a Charleston paper, that the actual cost of that cloth, including freight, insurance, exchange &c, but exclusive of duties, was sixtytwo cents per yard. It was sold at Charleston, 'AT THE FAIR MARKET VALUE,' for sixtyeight cents per yard. From which it would appear, that the domestic manufacture of such goods, has so reduced the market price, that the foreign article cannot be imported, EVEN FREE OF DUTY, and yield a reasonable profit.

We have gathered a few scraps which were used at New York. There can be no harm in showing them in advance of long reports; and among these is one which refers to the effect of the tariff on iron manufactured in the west. The prices referred to are at Pittsburgh.

In 1828, bar iron sold for	$196 a $210 per ton.
Now the price is	100
In 1828, boiler iron was	350 per ton.
Now it is	140
In 1828, sheet iron was scarcely in the western market—value at	18
Now it is manufactured in Pittsburgh, sufficient for the valley of the Ohio, at	8 50
In 1815 a 1820, cut nails were valued at	14 a 15
Now the same kind sells for	6 a 7
Hoop iron in 1828 was worth	250
Now it sells for	120
Axes in 1820 were worth	24
Now they sell for	12

Scythes are now fifty per cent lower than in 1824.

In 1820, iron hoes ground sold for	9
Now steel hoes ground are worth	4 a 4½

The same remarks apply to spades and shovels; and socket shovels sell now for 4½, which in 1820 were worth 12.

English vices in 1820 were worth	20 a 22
A better article is now made in this country, at	10½
The same article in 1824 sold for	18¾

Braziers' rods (imported) in 1824 sold for 14 per lb. now our manufacturers supply them at 130 per ton, ¼ to ⅜ inch in diameter.

Within the last 8 years there have been erected 12 new furnaces in Kentucky near the Ohio.

6 up the Alleghany,
4 on the Monongahela,
21 in west Pennsylvania,
8 rolling mills in Pittsburg.

Steam engines are now fifty per cent lower than in 1820.

Within the last year, more than 100 steam engines have been made in Pittsburgh, and it is thought that upwards of 150 will be finished in 1832.

Some other items may hereafter form another collection, that will go to strengthen arguments. —*U. S. Gazette.*

John Randolph, of Roanoke, advertises in the Nat. Intelligencer, his whole collection of horses for sale—'terms low, and any credit given on good security, the owner having no further use for them.'

NEW ENGLAND FARMER.

BOSTON, WEDNESDAY EVENING, DEC. 7, 1831.

SHOW OF BUTTER AND CHEESE.

Yesterday was the day assigned for the Exhibition of Butter and Cheese, at Faneuil Hall, for the liberal premiums offered by several gentlemen of Boston, and by the Massachusetts Agricultural Society. About 60 lots were presented from various parts of New England; the quality of the butter was considered generally superior to that of last year.

The following award has just been announced by E. Hersey Derby, Esq. Chairman of the Committee:—

PREMIUMS ON BUTTER.

1st premium of $100 to Luther Chamberlain of Westborough, Mass.
2d ditto of $50 to Henry Sprague of the Boylston Farm, Princeton, Mass.
3d ditto of $30 to Seth Davenport of Mendon, Mass.
4th ditto of $20 to Samuel Sawyer, 2d, of Sterling, Mass.
5th ditto of $15 to Gabriel Parker of Westboro, Mass.
6th ditto of $10 to Mrs Lydia Page of Hardwick, Mass.

PREMIUMS ON OLD CHEESE.

1st premium of $100 to Ebenezer Tidd of New Braintree, Mass.
2d ditto of $50 to John Matthews of New Braintree, Ms.

ON NEW CHEESE.

1st premium of $50 to Roswell Converse of New Braintree, Mass
2d ditto of $30 to David Lee of Barre, Mass.

We shall next week publish the Report of the Committee, with a particular account of the names and residences of the competitors, &c.

FARMER'S WORK FOR DECEMBER.

The farmer should obtain his year's stock of fuel as early in the season as possible, and before the depth of snow in the woodlands renders it difficult to traverse them by a team. It would be better for farmers, generally speaking, where wood is not cheap and plenty, to use the saw instead of the axe in preparing wood for the fire. It is said that a fire composed of billets of wood, not more than 14 inches long, will give more than two thirds as much heat into a room as that made of wood of double the length; and that billets of from 3 to 4 inches in diameter, on a medium will be found most economical.

A valuable paper, by the Hon. J. Welles, originally published in the Mass. Agr. Repository, recommends cutting hard wood trees between 40 and 50 years of age, and the writer states that 'though trees may shoot up in height by standing longer, yet the period of the most rapid vegetation is mostly over and by this means much of the under growth is destroyed.' Mr Welles is of opinion that in cutting over a wood lot to obtain fuel it is best to take the whole growth as you proceed. He observes that 'we have been condemned as evincing a want of taste in cutting off our forests without leaving what it would take half a century to produce, a shade near where it is proposed to erect buildings. The fact is that trees of original growth have their roots mostly in the upper stratum of earth, and near the surface. A tree acts upon its roots, and is acted upon by the wind, sustaining in common with the whole forest the force of this element, and it becomes accommodated or naturalized to this pressure. But when left alone or unsustained, it is borne down by the first gale, often to the injury of property and even of life.' The *Farmer's Assistant* likewise says 'if woods are old and decaying the better way is to cut all off, as you want to use the wood and let an entire new growth start up which will grow more rapidly.'

PLANTING FRUIT SEEDS.

Mr Fessenden—Your correspondent M. of Maine, asks for information respecting *the proper course to pursue in planting fruit seeds and stones.* You have assigned sundry reasons for their failure, but the true one I apprehend has not been stated. From long experience on this subject I have found that the action of a severe winter frost is essential to their vegetation. If this doctrine be correct, the depth of snow remaining through the winter on ground not previously frozen, as was the case here, and probably in Maine, was a sufficient cause for the failure. Whether the action of frost in itself conduces to the vegetation of this kind of fruit, or whether it only facilitates it by preparing the envelope to give way to the imprisoned seed in its efforts to obtain heat and light, which are essential, are questions which I cannot with confidence determine. I have cracked stones that had been secured from frost and planted them in the spring, when no vegetation ensued. Perhaps they had been kept too dry. I intend to renew the experiment with some I have reserved for the purpose in a moist cellar. In planting fruit seeds and stones, my custom has been to excavate the surface, and to throw the stones into the cavity when the earth is moist, and cover it with a board, or what I have found better, to put them into some shallow vessel level with the surface and cover it with a thin sod. After preparing my ground in the spring I crack the stones, and lightly cover them in trenches. On account of the great prevalence of the wire worm I have some seasons omitted to crack the stones, that the seed might be longer protected by the shell. Not a dozen where I expected thousands made their appearance, in this case, last spring. After a frosty winter, I have not found it useful to disturb the shell. This failure I consider a suspension only, with but the loss of one year's growth, as we may calculate from present appearances that there will be frost sufficient before next spring to open the shell.

For a few years past I have adopted an additional method. After saving the stones from the fruit consumed, for the purpose of planting, as above, mentioned, (Dr Darwin's pulp I consider of no use) I tread into the earth what remains under the tree. These stones I find will vegetate from ten to fifteen days sooner than those otherwise managed, and become much larger and more vigorous. When the stem is a little hardened I take them up with a trowel and transplant them in the nursery. I am now mostly dependent on the birds for my mazzard cherry stocks. Two years ago they furnished me with two thousand trees which grew two feet in height the first season, and furnished trees sufficiently large for budding.

Respectfully your friend and servant,
Worcester, Nov. 28, 1831. O. Fiske.

WINTER WHEAT.

Mr Fessenden—Having seen your notice of the reception of a quantity of the Black Sea White Flint wheat, and feeling desirous of promoting the cultivation of this very valuable grain, I can state for the information and encouragement of those farmers who may have doubts of its success in New England, that it has been raised here every season since 1827, the yield varying from 20 to 28 bushels per acre. It has been twice sown on an old plain (the soil of which is a fine gravel) which has been under cultivation more than 100 years.—The soil of the field in which I raised it last season is a light loam.—From what I have seen of this wheat I am satisfied that it is a more certain crop than rye.—It has been raised by several of my neighbors and I have never known an instance of its blasting. I have found it necessary to manure more highly where I sow wheat than where I raise rye.

Planting Peach Stones &c.

A correspondent in the last New England Farmer wishes to be informed of the best method of planting the peach and other fruit stones, and as we are all prone to think our own mode best, I take the liberty of stating mine. I take a box in the fall, throw in a little earth and place such stones as I wish to plant on it—then fill the box with earth and place it in an exposed situation and let it remain until I plant my garden, when I empty my box and collect the stones and crack them; take out the *meats* and plant them in rows 2 or 3 inches deep. If your correspondent will try this method I believe he will find it a good one, if not the best.

Yours &c, E. A. E.
Killingworth, Con. Nov. 29, 1831.

PARMENTIER'S HORTICULTURAL GARDEN FOR SALE.

We understand that Madam Parmentier finding it inconvenient to carry on the Horticultural Botanic Garden at Brooklyn, has determined to dispose of it. This offers a fine opportunity for a person disposed to enter upon that business. The establishment contains about fourteen acres of ground, inclosed by a very high stone wall laid in lime mortar, and is situated at the junctions of two of the most public turnpikes on Long Island, within two miles of New York. The stock of saleable trees consists of 13,726 Forest Trees, 10,616 Grape vines, 10,000 Pear trees, 3,000 Cherry trees, 6,200 Apple trees, 1,621 Quince trees, 600 Plum trees, 361 Apricot trees, 2,460 Peach trees, 2,100 Mulberry trees, and 6,300 Shrubs, exclusive of the trees in the alleys and borders, Rose bushes and seedlings. We are not informed as to the terms on which the establishment is to be sold. We regret that any circumstance should render it necessary for Madam Parmentier to dispose of the establishment. The recent death, however, of her son, on whom she so much relied to take charge of it, seems to have influenced her determination. The late Mr Parmentier expended an immense amount of money on the place, besides several years of hard and incessant toil, and we know it to have been his most anxious desire that his family should keep possession of it. But he did not foresee the melancholy change that was so soon to take place. If any female is qualified to carry on such an establishment, then is Mrs Parmentier—assisted as she is by one of the most intelligent and active young ladies (her daughter,) we ever met with. But all who have such concerns, even of small extent, know the hopelessness of being able to get assistants who will take that peculiar care so indispensable to success. Mrs Parmentier and her daughter are well qualified to manage the whole concern so far as females can be; but then there are thousands of instances requiring the eye of the proprietor which females

cannot supply. We shall endeavor to obtain the terms of sale, and will render all the assistance in our power both to Madam Parmentier and those wishing further information on the subject.—*Am Farmer.*

Boston.—If no unfavorable political or other event occurs, the next Spring and Summer will exhibit scenes of uncommon activity and prosperity in and near Boston. Ten stores are to be built on the City wharf—a block of stores is to be erected on Kilby street—Commercial street is to be extended 1200 feet, and built upon probably—the works for the terminus of the Lowell Rail Road will be prepared, and the making of the Road will be commenced and prosecuted with spirit—Tremont street will be extended towards Roxbury—and undoubtedly numerous individuals intend to erect houses and stores, and are maturing their plans.

Besides the above enterprises some of the preparatory labor on the Providence, Taunton and Worcester Rail Roads may be expected to be commenced the next season.—*Boston Centinel.*

The first year of travelling on the Liverpool and Manchester railway has expired—during a part of the time, however, there was not full accommodation for either passengers or goods, yet it seems that 416,000 persons have travelled its whole distance, and about 34,000 persons short distances—a total of 450,000—and whose fares reach 99,600*l.* stg.—a prodigious sum. The exact sum produced by the carriage of goods is not ascertained, but it is estimated at 90,000*l.* This is surely a convincing proof of the utility of Rail Roads, and the favor with which they are regarded by the community. In this country we have no doubt they will prove as profitable and popular.

The Glasgow and Grankirk railway was formally opened at the end of September. The locomotive engines performed their journeys in capital style, conveying elegant carriages and barouches filled with passengers at the rate of 20 miles an hour. It presented another splendid triumph of science and art.

Wool.—We have been furnished with a statement showing the number of pounds of wool, that have been imported into Boston during the years 1829, 1830, and the 1st, 2d, and 3d quarters of this year.

	Pounds.
Imported in the year 1829,	707,242
Do. do. do. 1830,	424,589
Imported in the 1st, 2d and 3d quarters of this year,	2,491,846

Boston States.

Peruvian Cotton.—We have seen a specimen of the Peruvian cotton recently imported at Boston from the Pacific. The quantity imported is nearly 400 bales, or 60,000 pounds, and it cost in the country of its growth only one cent a pound. The loss of weight in ginning is about 60 per cent. The plant from which it is obtained, we are informed, is a tree, which grows spontaneously in the western parts of South America.—*N. Y. D. Adv.*

American Manufactures.—The Methuen Company manufacture Tickings, Drillings, and Sheetings; the quantity made is one million one hundred and thirty-seven thousand two hundred yards, viz: 547,200 yards of Drillings and Tickings, and 590,000 yards of Sheetings. The hydraulic power is derived from a fall of 40 feet, operating on a water wheel of one hundred and eight feet in circumference, by 14 feet wide, which is said to be the largest wheel of the kind in North America, and probably the largest in any country.

Cyphering Slates.—At Delaware Water Gap, 20 miles above Easton, in Bucks county, (Penn.) where the rocks are piled up 1200 feet high, James M. Porter has a manufactory of Cyphering Slates operating by water power. They are smoothed, framed ready for sale, superior to imported ones, each in two minutes. Last year it made 4200 doz. slates, and will finish 5000 dozen the present year.

Culture of the Vine in Pennsylvania.—A gentleman near Harrisburgh is said to have made this year, from the product of a vineyard, planted four years ago, and occupying only 3 acres, 18 barrels of wine, worth $20 each.

Broom Corn Seed has been sold in Northampton from 17 to 25 cents per bushel. The opinions of farmers vary much as to the value of this article. More than 50,000 bushels were raised in this vicinity the past season.

'Proceeding the whole Pork!'—Mr Thomas Clapham, of Portsmouth, N. H. killed a Hog a few days since, thirteen months and thirteen days old, weighing, when nicely dressed, 532 lbs. When he bought him he was one month and thirteen days old, and weighed 30 lbs.—gaining in one year, 502 lbs.

A tavern near the London Fish Market, (Billingsgate,) is asserted to sell upwards of 4000 glasses of gin, between 4 and 8 A. M. many of the fishwomen and porters consuming 10 to 12 glasses before breakfast.

Liverpool salt has been found very injurious to butter, which it makes soft, gluey and rancid. Near Liverpool it is not used for preserving butter, beef or pork, but only for culinary purposes. Turks Island salt, washed, dried, and ground in a clean mill, is the best for butter.

NOTICE.

A stated meeting of the Massachusetts Horticultural Society will be held on Saturday next, at the Rooms of the Society, at 11 o'clock, A. M.

R. L. EMMONS, Secretary.

Pear Seeds.

For sale at the Seed Store connected with the New England Farmer Office—

One bushel of fresh Pear Seeds, of excellent quality. Nov. 30.

Mackay Pigs.

For sale, 10 first rate pigs, of the genuine Mackay breed. They are about six weeks old, of good size and fine form. Inquire at the N. E. Farmer Office.

Flooring Boards, &c.

Of hard Southern Pine, or Eastern White Pine, furnished to order, ready planed (by steam power) and tongued or grooved, of any required dimensions. Quality good, and price lower than they can be elsewhere had. Apply to E. COPELAND, Jr, 65, Broad street.

Seeds for Country Dealers.

Traders in the country, who may wish to keep an assortment of genuine Garden Seeds for sale, are informed they can be furnished at the New England Farmer office, No. 50½ North Market street, Boston, with boxes containing a complete assortment of the seeds mostly used in a kitchen garden, on as favorable terms as they can be procured in this country, neatly done up in small papers, at 6 and 12 cents each—warranted to be of the growth of 1831, and of *the very first quality.* Ornamental Flower Seeds will be added on the same terms, when ordered, as well as Peas, Beans, Early and Sweet Corn, &c, of different sorts.

☞The seeds vended at this establishment, are put up on an improved plan, each package being accompanied with short directions on its management, and packed in the neatest style.—Traders are requested to call and examine for themselves. Nov. 12.

Fresh White Mulberry Seed.

Just received at J. B. Russell's Seed Store, Nos. 51 & 52 North Market Street—

A small supply of fresh and genuine White Mulberry Seed, warranted the growth of the present season, from one of the greatest Mulberry orchards in Mansfield, Connecticut. Short directions for its culture accompany the seed.

Jewelry, Watches and Fancy Goods.

WM. M. WESSON, No. 105 Washington Street, Boston, is constantly supplied with a good assortment of Watches, Silver and Plated Ware, Jewelry, Cutlery, Trays of all kinds, Fancy Goods, &c, &c, which he will dispose of at as low a rate as can be purchased in the city. ☞Watches repaired and warranted.

PRICES OF COUNTRY PRODUCE.

			From	To
APPLES, russettings,	-	barrel.	2 50	3 00
ASHES, pot, first sort,	-	ton.	112 00	113 00
Pearl, first sort,	-	"	125 00	130 00
BEANS, white,	-	bushel.	90	1 00
BEEF, mess,	-	barrel.	8 50	9 00
Cargo, No. 1,	-	"	7 00	7 50
Cargo, No. 2,	-	"	6 25	6 50
BUTTER, inspected, No. 1, new,	-	pound.	14	15
CHEESE, new milk,	-	"	6	8
Skimmed milk,	-	"	3	6
FLAXSEED,	-		1 12	1 50
FLOUR, Baltimore, Howard-street,	-	barrel.	5 75	6 00
Genesee,	-	"	6 31	6 50
Alexandria,	-	"	5 75	5 85
Baltimore, wharf,	-	"	5 50	5 75
GRAIN, Corn, Northern,	-	bushel.	68	70
Corn, Southern Yellow,	-	"	67	68
Rye,	-	"	75	78
Barley,	-	"	108	120
Oats,	-	"	48	50
HAY,	-	cwt.	60	70
HOG'S LARD, first sort, new,	-	cwt.	9 50	10 00
HOPS, 1st quality,	-	"	11 0	13 00
LIME,	-	cask.	1 17	1 20
PLAISTER PARIS retails at	-	ton.	3 00	3 25
PORK, clear,	-	barrel.	16 00	17 00
Navy mess,	-	"	13 00	14 00
Cargo, No. 1,	-	"	13 00	13 50
SEEDS, Herd's Grass,	-	bushel.	1 87	2 12
Red Top *(northern)*	-	"	50	75
Red Clover, (northern)	-	pound.	10	12
TALLOW, tried,	-	cwt.	9 00	10 00
WOOL, Merino, full blood, washed,	-	pound.	58	63
Merino, mixed with Saxony,		"	70	75
Merino, three fourths washed,		"	52	55
Merino, half blood,	-	"	50	52
Merino, quarter,	-	"	45	48
Native, washed,	-	"	44	45
Pulled superfine,	-	"	62	63
1st Lamb's,	-	"	56	58
2d, "	-	"	40	42
3d, "	-	"	28	30
1st Spinning,		"	48	50

PROVISION MARKET.

BEEF, best pieces,	-	pound	8	10
PORK, fresh, best pieces,	-	"	6	8
whole hogs,		"	5½	6
VEAL,	-	"	6	8
MUTTON,		"	4	6
POULTRY,		"	8	10
BUTTER, keg and tub,		"	12	15
Lump, best,	-	"	18	20
EGGS,	-	dozen.	18	22
MEAL, Rye, retail	-	bushel.	82	84
Indian, retail,	-	"	82	84
POTATOES,	-	"	37	40
CIDER, [according to quality]		barrel.	3 00	4 00

Brighton Market—*Monday, Dec. 5.*

[Reported for the Chronicle and Patriot.]

At market, this day, 1470 Beef Cattle, 162 Stores, 1220 Sheep, and 1240 Swine. About 70 Beef Cattle, 400 Sheep, and 690 Swine have been before reported.

Prices.—*Beef Cattle*—Market quick at an advance, say for barrelling Cattle 25c. per hundred; better qualities not so much. We quote for extra $5 25, prime 4 83 a 5, good 4 50 a 4 83, thin 3 25 a 4 50.

Barrelling Cattle—Mess 4 25, quick; No. 1, 3 75.

Stores—High prices are asked—very few sales.

Cows and Calves—A few sales but no prices noticed.

Sheep—Prices did not vary much from last week—we noticed sales at 1 75, 1 88, 1 90, 2, 2 25, 2 50, and $3—some wethers were included.

Swine—No sales effected.

New York Cattle Market, Dec. 2.—In market this week 800 head of beef cattle, a short supply. First rate cattle are very scarce, and worth $6,75; inferior from $4,50 a 6. Sheep and lambs in great demand, very few in market; prices have averaged considerably higher, full 50c. a head on sheep. Sheep are worth from $3 a 5, and numbers that were fine sold at $6; lambs 2,23 a 3,25. Dressed pork, sales brisk at 4,75 a 5,25. Good cows and calves are in demand.—*Daily Adv.*

☞In the New York market only the quarters of Beef are weighed, the hide and rough tallow being included without weighing. At Brighton, the hide and tallow are weighed as well as the quarters.

MISCELLANY.

The following extracts are from a small pamphlet lately republished by Lilly & Wait, and Carter & Hendee, entitled

KNOWLEDGE FOR THE PEOPLE,

OR, THE PLAIN

WHY AND BECAUSE.

Why does a silver, or metal tea-pot, when filled a second time, produce worse tea than the earthenware vessel?

Because the heat retained by the silver, or metal vessel, so far exhausts the herb, when the water is first poured in, as to leave very little soluble substance for a second infusion; whereas, the reduced temperature of the water in the earthenware pot, by extracting only a small portion at first, leaves some soluble matter for a second infusion.

Why is it advisable to pour boiling water into the tea pot before the tea is 'made?'

Because the vessel being previously warm, may abstract less heat from the mixture, and thus admit a more powerful action.

Why is it recommended to add only a small quantity of boiling water at first?

Because only the water immediately in contact with the herb can act upon it; and it cools very rapidly, especially in earthenware vessels: it is therefore clear that the effect will be stronger where the heat is kept up by additions of boiling water, than where the vessel is filled at once, and the fluid suffered gradually to cool.

Why is a strong infusion of green tea an effectual poison for flies?

Because of the prussic acid it contains.

Why is coffee so seldom well made in England?

Because, 1st. The berries are over-roasted, their proper color being that of cinnamon; 2d. The coffee is ground too fine; 3d. Not enough coffee is used; 4th. It is usually overboiled, by which means the bitter principle is extracted from the berries.

Why are we in some measure indebted to the French for our present abundant supply of coffee?

Because all the coffee grown in the West Indies has sprung from two plants taken thither by a French botanist from the botanic garden at Paris. On the voyage the supply of water became nearly exhausted; but so anxious was the Frenchman to preserve the plants, that he deprived himself of his allowance in order to water the coffee plants. Formerly coffee could only be got at a great expense from Mocha in Arabia.

Why do fowls, if kept confined, lay their eggs without shells?

Because they cannot then get at any earth which contains the material requisite for the shell. Dr Paris, (in the *Linnæan Transactions*) shows that if the legs of hens be broken, they will lay their eggs without shells until the fracture is repaired; nature employing all the lime in circulation for the purpose of reuniting the bones.

Why are certain small fowls called 'bantams?'

Because they were first introduced here from Bantam in the Isle of Java, in the year 1683.

Why are eggs preserved by rubbing them with butter?

Because the butter closes the pores in the shell, by which the communication of the embryo with external air takes place. The embryo is not however, thus killed. Varnish has a similar effect. Reaumur covered eggs with spirit varnish, and found them capable of producing chickens after two years, when the varnish was carefully removed.

Why is the coloring of cheese unobjectionable, provided it is genuine?

Because the seed, or arnotta, by which the coloring is produced, is slightly purgative and stomachic. It is produced by a bush, or small tree, mostly tropical.

Why have white veils a tendency to promote sunburn and freckles?

Because they increase the power of the sun's light.

Why are white hats and dresses worn in summer?

Because dark colors absorb most heat; white therefore, repels most heat, and is cooler wear. A white dress in winter is good, because it radiates or receives little heat. Polar animals have generally light furs. White horses are both less heated in the sun, and less chilled in winter, than those of darker hues.

Why does a flannel covering keep a man warm in winter, and ice from melting in summer?

Because it both prevents the passage of heat from the man, and to the ice.

Why does a person with a cold in the head or catarrh from the eyes and nose, experience so much more relief on applying to the face a linen or cambric handkerchief than one of cotton?

Because the linen, by *conducting*, readily absorbs the heat and diminishes the inflammation, while the latter, by refusing to give passage to the heat, increases the temperature and the pain. Popular prejudice has held that there was a poison in cotton.—*Arnott.*

Why is cotton warmer than any other fibrous thread?

Because the fibres of cotton, when examined by the microscope, will be seen to be finely toothed: this explains the cause of their adhering together with greater facility than the fibres of other species which are destitute of teeth, and which cannot be spun into thread without an admixture of cotton.

Why does oiled silk, or other air-tight covering, laid on a bed, preserve greater warmth than an additional blanket or more?

Because the oiled silk prevents the ventilation of the person by the slow passage of air, as through the texture of the blanket.

Why does worsted differ from yarn?

Because separate threads of wool are more twisted for the worsted, of which stockings and stuffs are made, than for the yarn, of which blankets, carpets, &c, are made. Worsted was named from its being originally manufactured in great quantities, at Worsted in Norfolk, once a large town, but now reduced to a village; the manufacture being removed to Norwich and its vicinity.

Why is woollen cloth advantageous?

Because of the readiness with which it allows the perspiration to escape through its texture, its power of preserving warmth to the skin under all circumstances, the difficulty of making it wet through, the slowness with which it conducts heat and the softness, lightness, and pliancy of its texture.

Why are blankets so called?

Because they were first made in 1340, by one Thomas Blanket, and some other inhabitants of Bristol.

Why do pearl-ash and water remove grease spots?

Because the pearl-ash unites chemically with the grease, forming a species of soap, which easily washes out.

Why is pipe-clay used for scouring cloth?

Because pure clay, or alumina, has great affinity for greasy substances.

The Yankees.—One man at Charlestown, Massachusetts, has gathered 362 lbs. of *squashes* from *one* seed—another at Portsmouth plucked an *apple* from one of his trees that weighed 1 lb. 10 oz.—and the *cow* of a third dexterously shook a quince tree, and eat a peck of golden fruit! A fourth makes about 2,000 dollars a year by the manufacture of *shaving boxes* to assist the operation of *nullificating* the beards of southern gentlemen—a fifth grows *water-melons* weighing 39½ lbs. So they go on. With anything—from a shaving box to a ship, from contriving wooden nutmegs to the use of the bayonet—from making cider to handling 22-pounders, the Yankee always wishes to 'go ahead;' and he will sit down, with a penknife, to make a clock out of cedar shingles—or enter for a three years' voyage to the Pacific to harpoon whales—'just as it happens!' Two of them some years a go, took a trip to Canton in an old sloop, in which they built an oven and commenced the manufactnre of gingerbread; and, having gathered money, returned with a 'considerable' cargo of teas, which they picked up 'in trade.' And one who had recently, peradventure, returned from a voyage among the frozen islands of the south to catch seal—lately managed a team of one *hundred and fifty pairs* of oxen at a cattle show, marching and countermarching them like a well drilled company of soldiers, at command! We may next hear of him teaching a school, or hammering horse shoes, building a mill, weaving cotton table cloths, or making mouse traps! His only motto is 'ONWARD'—*always onward.—Niles' Register.*

Progress of Refinement.—A Philadelphia Editor has modified the vulgar and hackneyed expression, '*Going the whole Hog,*' by substituting the following more polite and genteel words.—'*Proceeding the whole Pork!*'

Cobb's Trealise on Silk.

Just published, and for sale at the Agricultural Warehouse and Seed Store, No 50½ North Market street,

A Manual, containing information respecting the Growth of the Mulberry Tree, with suitable Directions for the Culture of Silk—In three parts—with colored engravings. By J. H. COBB, A. M. Published by direction of His Excellency Gov. Lincoln, agreeably to a Resolve of the Legislature of Massachusetts. Price 37½ cents. Oct. 26.

☞ *Ammunition*

Of the *best* quality and *lowest prices*, for sporting—constantly for sale at COPELAND'S POWDER STORE, 6 Broad Street.

N. B. If the quality is not found satisfactory, it may be returned, and the money will be refunded Jan. 1

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